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The effect of yoga on the delivery and neonatal outcomes in nulliparous pregnant women in Iran: a clinical trial study

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Abstract

Background: Yoga can reduce the risk of preterm delivery, cesarean section (CS), and fetal death. The aim of the present study was to investigate the effects of Yoga on pregnancy, delivery, and neonatal outcomes.

Methods: This was a clinical trial study and using the random sampling without replacement 70 pregnant women entered Hatha Yoga and control groups according to the color of the ball they took from a bag containing two balls (blue or red). The data collection tool was a questionnaire pregnancy, delivery, and neonatal outcomes. The intervention in this study included pregnancy Hatha Yoga exercises that first session of pregnancy Yoga started from the 26th week and samples attended the last session in the 37th week. They exercised Yoga twice a week (each session lasting 75 min) in a Yoga specialized sports club. The control group received the routine prenatal care that all pregnant women receive.

Results: The results showed that yoga reduced the induction of labor, the episiotomy rupture, duration of labor, also had a significant effect on normal birth weight and delivery at the appropriate gestational age. There were significant differences between the first and second Apgar scores of the infants.

Conclusion: The results of the present study showed that Yoga can improve the outcomes of pregnancy and childbirth. They can be used as part of the care protocol along with childbirth preparation classes to reduce the complications of pregnancy and childbirth.

Trial registration: IRCT20180623040197N2 (2019-02-11).

Keywords: Yoga, Pregnancy outcome, Neonatal

Background

The pregnancy stage has a profound effect on the life of every woman and is associated with physical and psychological changes. During this period, attention to the health of the fetus is of particular importance [1, 2]. The maternal mortality rate due to elective Cesarean Section (CS) is 2 to 3 times higher than that of natural delivery [3]. The high rates of CS increase maternal (such as uterine infections, postpartum hemorrhage, and anesthesia) and neonatal (such as increased length of hospital stay in the neonatal intensive care unit, respiratory diseases, jaundice, neonatal infection, low Apgar score, low birth weight, and neonatal mortality) complications [3, 4].

Prenatal care and type of delivery for nulliparous pregnant women have a great impact on their experience of pregnancy and delivery and can also determine the type

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The limitations of this study, which were not under the researchers' control included the small sample size, unrecognizable emotional and mental conditions unexpressed by the participants, the stress and anxiety of the pregnant women during childbirth, and environmental factors (such as disturbing noises which were minimized in this study). It is suggested that further research be done with larger sample sizes, other factors affecting the delivery and neonatal outcomes be taken into account, and other scales be used.

Conclusion

The results of the present study showed that yoga exercises could lead to a normal birth weight and improve the infant's Apgar score and reduce emergency CS, labor duration, induction of labor, and preterm labor. Therefore, they can be used as part of the care protocol along with childbirth preparation classes to reduce the complications of pregnancy and delivery. Therefore, yoga exercises can be part of the usual midwifery nursing care. Since these exercises are low-cost and uncomplicated, they can be used by nurses, midwives, and gynecologists for willing nulliparous pregnant women.

Practice points

- When women are at risk for preterm labor based on the presence of risk factors, give advice on modifiable risk factors.
- Explain options with a woman who is nearing prolong pregnancy, including induction of labor.
- Midwifery-led care is associated with the best outcomes for low-risk deliveries
- Assess the baby's Apgar regularly
- For prolonged second stage of labor, consider the options of cesarean section versus assisted vaginal birth
- Avoid routine episiotomy
- Avoid routine preterm labor

Research agenda

- The effect of reducing the rate of CS is introduced when yoga exercises are performed during pregnancy.
- Determining the extent of adverse neonatal and delivery
- Definition of failed induction, compared with shorter time intervals and different access to Cesarean delivery in yoga
- Further empirical research is needed to reach a consensus on the starting criteria (both in terms of definition and support).

Abbreviations

CS: Cesarean section

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Authors' contributions

This study substantial contributions to the conception design of the work LD and LY, the acquisition, analysis and interpretation of data LD and LY, PN; the creation of new software used in the work ST, and FM, FG; have drafted the work or substantively revised it LD and LY. All authors have read and approved the manuscript.

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Availability of data and materials

The data that support the findings of this study are available from [Leila Dehghankar] but restrictions apply to the availability of this data, which were used under license for the current study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of [Leila Dehghankar].

Declarations

Ethics approval and consent to participate

The ethical principles observed by the researchers included obtaining permission from the Ethics Committee of Qazvin University of Medical Sciences (code: IR.QUMS.REC.1397.184). This study was registered in the Iranian Registry of Clinical Trials (number: IRCT20180623040197N2). In addition, written informed consent from all the participants were obtained and they were granted the right to withdraw from the study at any time. The principles of anonymity and confidentiality were applied and the participants were provided with the results upon their request.

Consent for publication

Not Applicable.

Competing interests

The authors declare no competing interests regarding the present study.

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